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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/676,145

10/02/2003

Tae-Hoe Ha

1572.1152

6385

21171

7590

04/27/2006

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EXAMINER

KIM, PAUL D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,145

Applicant(s)

HA, TAE-HOE

Examiner

Paul D. Kim

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-30 is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is a response to the amendment filed on 2/23/2006.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitation "supporting units abutting the discs when the disc springs center the discs" in line 7 of claim 1 and line 8 of claim 23 was not described in the specification as originally filed and appear to be new matter.

Note: Definition

abut, abutting: to touch along a border (Merriam Webster 10th Edition).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-7, 10, 12, 14, 15, 17, 19, 20, 23 and 24 are rejected under 35

U.S.C. 102(b) as being anticipated by Guthrie et al. (US PAT. 6,453,541).

Guthrie et al. teach a disk centering device comprising: a base plate (430); a chuck (450 as shown in Fig. 4) which is installed on the base plate; a hub unit (310) which is detachably engaged to the chuck and receives discs (210) to be stacked as shown in Fig. 3; disc pushers (920, 914 as shown in Figs. 6, 8 and 9) which are slidably provided outside the hub unit and include corresponding plate springs (614) which push circumferences of the discs and center the discs; supporting units (412) which support the corresponding plate springs with respect to the disc pushers so as to reinforce a restoring force of the plate springs (col. 6, line 32 to col. 7, line 6 and col. 11, lines 4-67); and a driving unit (1060 as shown in Fig. 10) which slides the disc pushers simultaneously (see also col. 4, line 12 to col. 13, line 22).

Re. Claim 2: Each supporting unit is provided in a part of the corresponding plate spring as shown in Fig. 6.

Re. Claim 3: Each supporting unit is provided in a side end part of the corresponding plate spring as shown in Fig. 6.

Re. Claim 4: Each of the supporting units includes a supporting block (a portion which supports the plate springs, 412) which supports the side end part of the

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corresponding plate spring; and at least one screw which fastens the corresponding plate spring (550) to the supporting block (412).

Re. Claim 5: The support block completely covers the side end part of the corresponding plate spring as shown in Fig. 6.

Re. Claim 6: Each of the plate springs comprises a plurality of layered plate spring members as shown in Fig. 6.

Re. Claim 7: Each of the supporting units supports a side end part of the corresponding plate spring with respect to the respective disc pusher so as to maintain a centering value of the discs within a desired level as shown in Fig. 6.

Re. Claims 10, 20 and 24: Each of the supporting units supports a side end part of the corresponding plate spring so as to restore the plate spring after the disc centering and prevent a deformation of the discs (col. 8, lines 34-40).

Re. Claim 12: The hub unit comprises a hub body (310), which is detachably engaged to the chuck and receives the discs and a hub cap (1050 as shown in Fig. 10) which moves up or down to clamp the discs stacked with respect to the hub body.

Re. Claim 14: The disc pushers are provided in a radial direction relative to the hub unit.

Re. Claim 15: The disc pushers include first, second and third disc pushers, which are provided at intervals of 120 degrees with respect to the hub unit as shown in Fig. 4.

Re. Claim 17: The driving unit includes a motor having cylindrical actuators (not shown), which drive the corresponding disc pushers.

Re. Claim 19: a linear guide unit (1082 A, B as shown in Fig. 10) which mounts the disc pushers, wherein the linear guide unit slides the disc pushers according to the driving unit.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al.

Guthrie et al. teach all of the limitations as set forth above except the centering value of the disks. Guthrie et al. teach that the positioning stiffness for the component such as the disk is maximized when the spring rate is at the maximum as disclosed in col. 8, lines 49-62. It is meant that if the desired spring rate is provided, then the desired centering value of the disks should be obtained. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the spring rate of the plate springs supported by the each of the supporting units of Guthrie et al. by controlling the desired spring rate of the plate springs in order to obtain the desired centering value of the disks with a desired level.

Allowable Subject Matter

7. Claims 25-30 are allowed.

Response to Arguments

8. Applicant's arguments filed 2/23/2006 have been fully considered but they are not persuasive. Applicant argues that prior art of record fails to disclose the claimed invention such as how the arm member of the disc support block supports the disc centering springs with respect to the disc support block to reinforce restoring force of the plate springs. Examiner traverses the argument. Guthrie et al. teach that the arrangement of the motor centering spring (414), the arm (412, supporting unit), and the spring support block (410) of each of the spring support blocks is brought into contact with the fixed hardened stop. This causes the motor centering springs spaced 120 degrees apart to each come into contact with the radially protruding flange of the spindle motor. In this manner, the mass of the spindle motor (310) is precisely positioned and aligned so as to balance the disc pack mass (110). Therefore, the motor centering springs are shown in contact with the flange of the spindle motor precisely positioning and aligning the motor. Further, the stack or head of disc centering springs (614) is also mounted on each of the supporting units so that the number of disc centering springs in each of the stacks corresponds with the number of disc platters that can be centered with respect to the disc support block capable of reinforcing the restoring force of the springs.

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Also, Applicant argues that prior art of record fails to disclose the claimed invention such as supporting units abutting the discs when the disc springs center the discs. However, the limitation was not described in the specification or shown in Figures as originally filed and appear to be new matter.

Conclusion

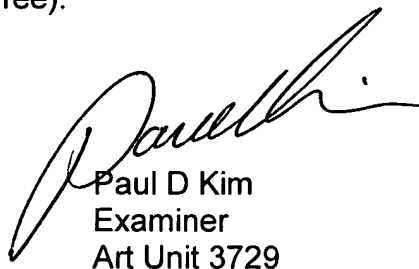
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Friday between 6:00 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul D Kim
Examiner
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